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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------|------------------|
| 10/634,917 | 08/06/2003 | Wataru Saito | 241189US2S | 6489 |
| 22850 | 7590 | 01/04/2005 | EXAMINER LEWIS, MONICA | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | ART UNIT 2822 | |
| PAPER NUMBER | | | | |

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,917

Applicant(s)

SAITO ET AL.

Examiner

Monica Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 30days MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 26-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-26 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This restriction is in response to the election filed October 8, 2004.

Election/Restrictions

2. This application contains claims directed to the following patentably distinct species of the claimed invention:

Embodiment I (Claims 1-4, 9-11 and 24), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the second layer separately from each other, control electrode and third semiconductor layer formed between the control and second main electrode, wherein the field plate electrode is connected to the first main electrode and the third semiconductor layer is formed so as to cover the second main electrode;

Embodiment II (Claims 1-3, 14 and 24), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the second layer separately from each other, control electrode and third semiconductor layer formed between the control and second main electrode, wherein the field plate electrode is connected to the first main electrode and a gate insulation film is formed under the control electrode;

Embodiment III (Claims 1-3, 23 and 24), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the

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second layer separately from each other, control electrode and third semiconductor layer formed between the control and second main electrode, wherein the field plate electrode is connected to the first main electrode and the three layers are formed of diamond;

Embodiment IV (Claims 1, 12 and 13), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the second layer separately from each other, control electrode and third semiconductor layer formed between the control and second main electrode, insulation film formed on the third layer and field plate electrode formed on the insulation film and connected to the first main electrode and the control electrode;

Embodiment V (Claims 1 and 5-8), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the second layer separately from each other, control electrode and third semiconductor layer formed between the control and second main and a fifth semiconductor layer of the first conductivity type formed under the second main electrode;

Embodiment VI (Claims 1, 15, 17, 19 and 21), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the second layer separately from each other, control electrode and third semiconductor layer formed between the control and second main electrode and a heterojunction of AlGa_N and Ga_N;

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Embodiment VII (Claims 1, 16, 18, 20 and 22), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the second layer separately from each other, control electrode and third semiconductor layer formed between the control and second main electrode and a heterojunction of AlGaInN and GaInN;

Embodiment VIII (Claims 1 and 25), directed to a power semiconductor device having a first semiconductor layer, a second semiconductor layer, first and second main electrodes formed on the second layer separately from each other, control electrode and third semiconductor layer formed between the control and the first and third layers are formed of an intrinsic semiconductor.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

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are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee under 37 CFR 1.17(i).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the

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status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML

December 22, 2004

A handwritten signature in black ink, appearing to be 'Mary Wilczewski', written in a cursive style.

Mary Wilczewski
Primary Examiner